

# **HAZARDOUS CARGO ORIENTATION**

**UMODA04**

**TBOLC 500-500-18**

**MWOBC 882X1A10**

# References

FM 4-01.011 (Unit Movement Operations)

Code of Federal Regulations - 49 - Transportation  
(Parts 100 to 185)

TM 38-250, *Preparing Hazardous Materials for  
Military Shipments*

International Air Transport Association - Dangerous  
Goods Regulation (IATA DGR)

International Maritime Dangerous Goods Code  
(IMDGC)

Current Emergency Response Guide 2004

# Hazardous Material Definition

*“A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce...The term includes hazardous substances, hazardous wastes, marine pollutants...”*

Title 49, Code of Federal Regulations

# Definition of a HAZMAT Employee

- A hazardous materials employee is any person "...who directly affects hazardous materials transportation safety..."
  - Loads, unloads, or handles hazardous material;
  - Prepares hazardous materials for transportation;
  - Is responsible for the safety of transporting hazardous materials; or

# Definition of a HAZMAT Employee (Cont)

- Operates a vehicle used to transport hazardous materials.”
- What does this mean to you as UMO and to personnel in your unit? Any one who handles, packages or ships any hazardous material is considered an employee.

*Title 49, Code of Federal Regulations*

# Definition of a HAZMAT Employer

- A hazardous materials employer is defined as “a person who uses one or more of his employees in connection with:
  - Transporting hazardous materials ...  
Causing them to be transported or shipped in commerce...
  - This term includes any department, agency ... of the United States.”

# Definition of a HAZMAT Employer (Cont)

- You, as the UMO, become an “employer” when you direct troops to load out a vehicle or container containing HAZMAT.
- Make sure you know what unit personnel must do to correctly handle, package and certify HAZMAT.

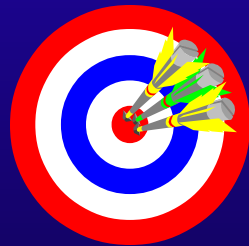
# HAZMAT Awareness

- The minimal level of training established by DOT

requires HAZMAT employees to:  
Recognize & identify hazardous materials shipments

Understand the numeric hazard class numbering system

Understand the hazards presented by the nine United Nations (UN) hazard classes & their subdivisions





# HAZMAT Awareness (Con't)

- Although the UMO can not be the HAZMAT certifier, the UMO must be aware of dangerous or potentially dangerous materials the unit is handling, shipping or storing
- Something as simple as a variety of consumer commodities could be potentially dangerous
  - Many “off the shelf” items from WD-40 to aftershave are classified by DOT as “Hazardous Materials”

# Penalties for Non-Compliance --

## Civil

- “Knowingly” violating the regulations

Making an “honest” mistake, i.e.  
failing to know something that should  
have been known, or failing to catch  
the error even if known

For example, one shipment has an  
incorrect label

- Fine: \$275 to \$50,000 dollars per day per  
every error or violation (para 107.329)

# Penalties for Non-Compliance -- Criminal

- “Willfully” violating the regulations

Making a conscious decision not to follow the rules

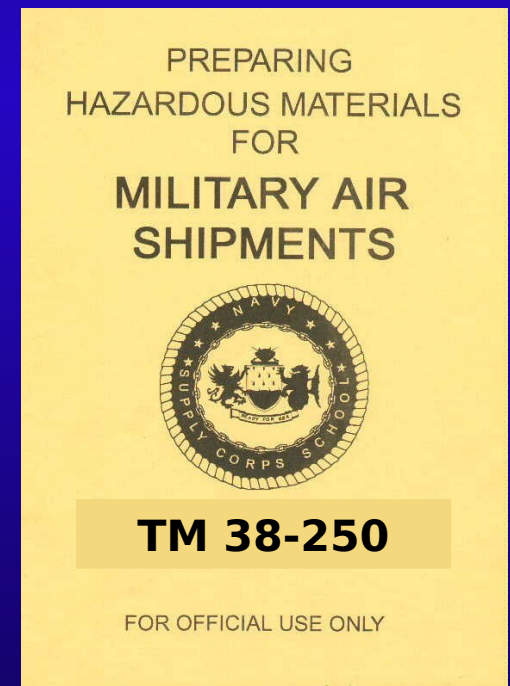
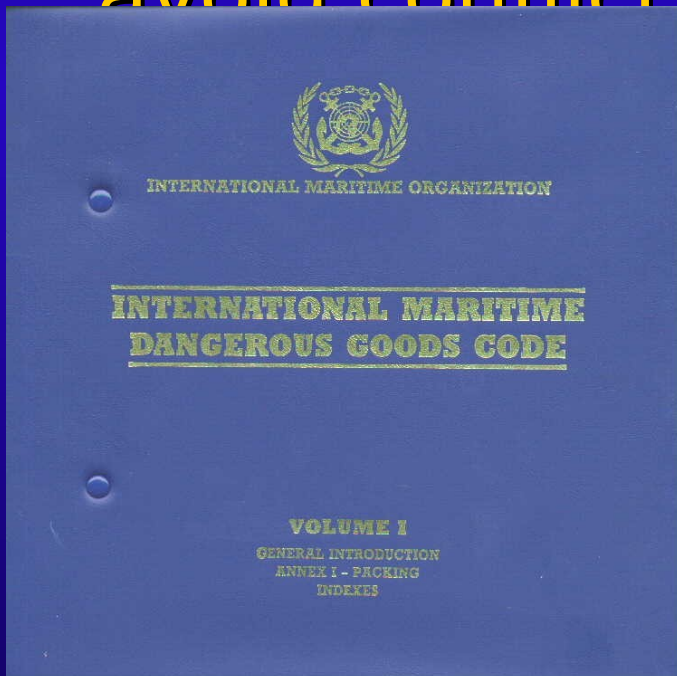
+ Example: Deliberately concealing or mis-declaring a shipment of

hazardous material

- This is a *felony* offense & could result in fines applicable under title 18 USC or up to 5 years in prison or Both (para 107.333)

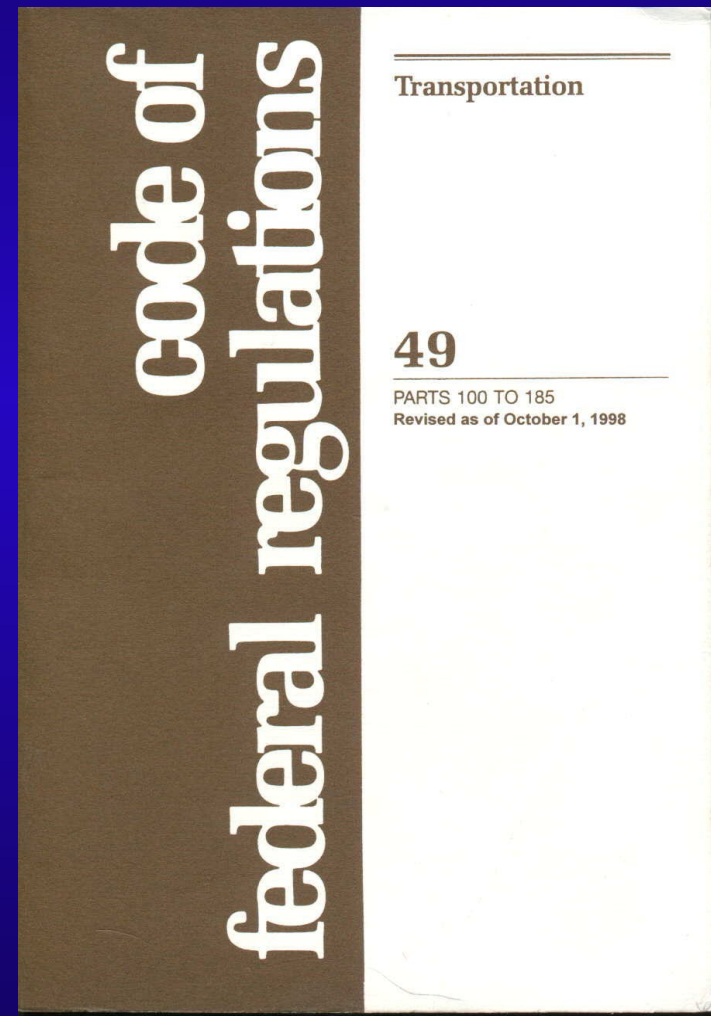
# Regulation Conflicts

- Always consult regulation for specific mode of transportation to be used to avoid conflicts



# 49 CFR

- Code of Federal Regulations for the transportation of hazardous material
- This publication is commonly referred as CFR 49



# 49 CFR -- Hazardous Material Table

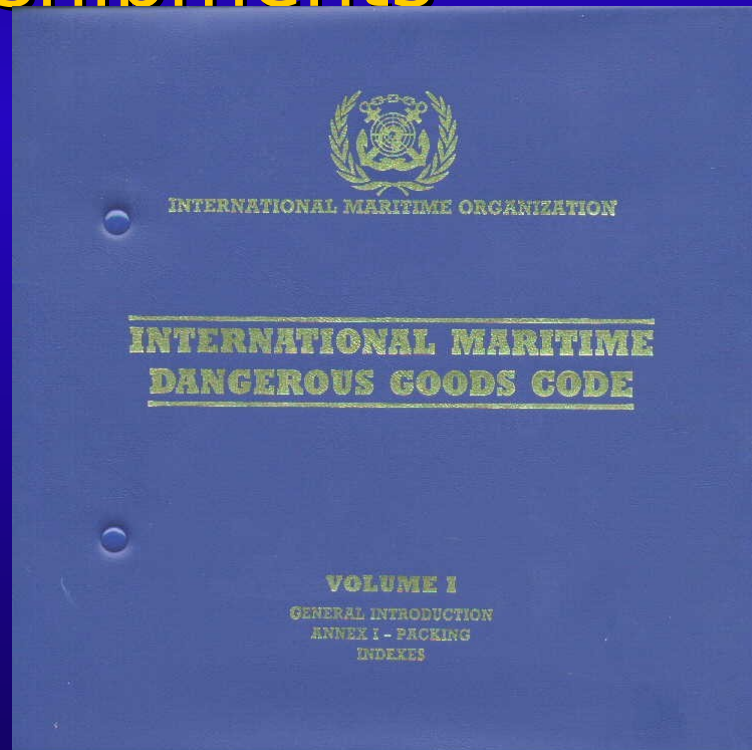
§ 172.101 HAZARDOUS MATERIALS TABLE

Sym- bols	Hazardous materials descrip- tions and proper shipping names	Hazard class or Di- vision	Identifica- tion Num- bers	PG	Label Codes	Special provisions	(8) Packaging (§173.***)			(9) Quantity limitations		(10) Vessel stow- age	
							Excep- tions	Non- bulk	Bulk	Passenger aircraft/rail	Cargo air- craft only	Loca- tion	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
D	<i>Accellerene, see p-Nitrosodimethylaniline.</i>	.....			.....		.....	.....	.....	.....	.....		
	<i>Accumulators, electric, see Batteries, wet etc.</i>	.....			.....		.....	.....	.....	.....	.....		
	Accumulators, pressurized, pneumatic or hydraulic (containing non-flammable gas).	2.2	NA1956		2.2 .....		306 .....	306 .....	None ..	No limit	No limit	A	
	Acetal .....	3	UN1088	II	3 .....	T7	150 .....	202 .....	242 .....	5 L	60 L	E	
A	Acetaldehyde .....	3	UN1089	I	3 .....	A3, B16, T20, T26, T29	None ....	201 .....	243 .....	Forbidden	30 L	E	
	Acetaldehyde ammonia .....	9	UN1841	III	9 .....		155 .....	204 .....	240 .....	200 kg	200 kg	A	34
	Acetaldehyde oxime .....	3	UN2332	III	3 .....	B1, T8	150 .....	203 .....	242 .....	60 L	220 L	A	
	Acetic acid, glacial or Acetic acid solution, with more than 80 percent acid, by mass.	8	UN2789	II	8, 3 ....	A3, A6, A7, A10 B2, T8	154 .....	202 .....	243 .....	1 L	30 L	A	
	Acetic acid solution, not less than 50 percent but not more than 80 percent acid, by mass.	8	UN2790	II	8 .....	A3, A6, A7, A10, B2, T8	154 .....	202 .....	242 .....	1 L	30 L	A	
	Acetic acid solution, with more than 10 percent and less than	8	UN2790	III	8 .....	T8	154 .....	203 .....	242 .....	5 L	60 L	A	



# International Maritime Dangerous Goods Code (IMDG)

- Regulates International HAZMAT water shipments



## GENERAL INDEX

SUBSTANCE or ARTICLE	IMDG CODE PAGE	UN No.	CLASS	Pack- aging Group	Subsidiary Risk Label(s)	EmS No.	MFAG Table No.
ACETAL <sup>P</sup>	3101	1088	3.1	II	–	3-06	330
– ditto –	3171	1088	3.2	II	–	3-06	330
ACETALDEHYDE <sup>P</sup>	3101	1089	3.1	I	–	3-06	300
para-ACETALDEHYDE <sup>■</sup>	see 3372	1264	3.3	III	–	3-06	300
ACETALDEHYDE AMMONIA	9021	1841	9	III	–	8-07	320
ACETALDEHYDE DIETHYL	see 3101	1088	3.1	II	–	3-06	330
ACETAL <sup>P</sup>							
– ditto –	see 3171	1088	3.2	II	–	3-06	330
beta-ACETALDEHYDE <sup>■</sup> OXIME	3301	2332	3.3	III	–	3-06	320
ACETALDOL	see 6055	2839	6.1	II	–	6.1-02	300
beta-ACETALDOXIME	see 3301	2332	3.3	III	–	3-06	320
ACETIC ACID, GLACIAL	8100	2789	8	II	Flammable liquid	8-04	700
ACETIC ACID, SOLUTION, more than 80% acid, by mass	8100	2789	8	II	Flammable liquid	8-04	700
ACETIC ACID, SOLUTION, more than 10% but not more than 80% acid, by mass	8100	2790	8	II*	–	8-05	700
ACETIC ALDEHYDE <sup>P</sup>	see 3101	1089	3.1	I	–	3-06	300
ACETIC ANHYDRIDE	8101	1715	8	II	Flammable	8-04	700





# International Air Transport Association (IATA) - Dangerous Goods

- Regulate Dangerous Goods (DGR) shipments via commercial air



# IATA -- DGR (Cont)



## Identification

### 4.2 List of Dangerous Goods

UN/ ID No.  A	Proper Shipping Name/Description  B	Class or Div.  C	Sub Risk  D	Hazard Label(s)  E	PG  F	Passenger and Cargo Aircraft				Cargo Aircraft Only		S.P. see 4.4  M
						Ltd Qty		Pkg Inst  I	Max Qty per Pkg  J	Pkg Inst  K	Max Qty per Pkg  L	
						Pkg Inst  G	Max Qty per Pkg  H					
1088	Accellerene, see <b>p-Nitrosodimethylaniline</b> (UN 1369)  Accumulators, electric, see <b>Batteries</b> , etc. † (UN 2794, UN 2795, UN 2800)  Accumulators, pressurized, hydraulic (containing non-flammable gas), see <b>Articles, pressurized, hydraulic</b> , etc. (UN 3164)  Accumulators, pressurized, pneumatic (containing non-flammable gas), see <b>Articles, pressurized, pneumatic</b> , etc. (UN 3164)  <b>Acetal</b>	3		Flamm. liquid	II	Y305	1 L	305	5 L	307	60 L	

# TM 38-250 / AFJMAN 24-204



- This is a joint service publication

- Regulates dangerous goods shipments via military air

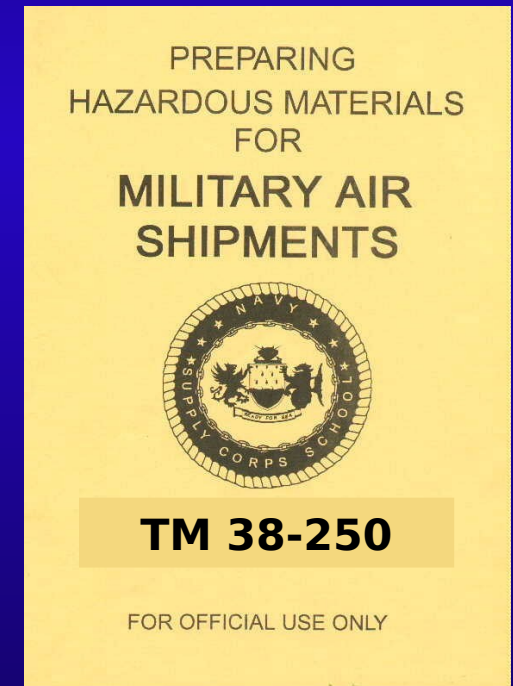
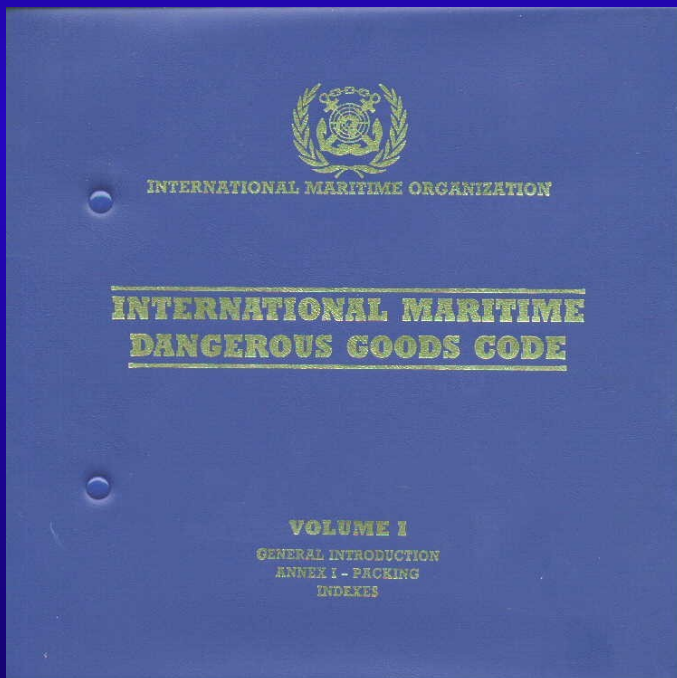


# TM 38-250 (Cont)

SYM- BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASS/DIV (3)	UN/ID NUMBER (4)	PG (5)	SUBSIDIARY RISK (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	<i>Accellerene; see p-</i> <b>NITROSODIMETHYLANILINE</b>						
D	<i>Accumulators, electric; see BATTERIES, WET, etc.</i> <b>ACCUMULATORS, PRESSURIZED,</b> <b>PNEUMATIC or HYDRAULIC</b> (containing nonflammable gas) <i>see also, ARTICLES,</i> <b>PRESSURIZED, etc.</b>	2.2	NA1956			P5	A6.9
	<b>ACETAL</b>	3	UN1088	II		P5	A7.3
	<b>ACETALDEHYDE</b>	3	UN1089	I		P3, A3	A7.3
	<b>ACETALDEHYDE AMMONIA</b>	9	UN1841	III		P5	A13.13
	<b>ACETALDEHYDE OXIME</b>	3	UN2332	III		P5	A7.3
	<b>ACETIC ACID, GLACIAL or ACETIC</b> <b>ACID SOLUTION, with more than 80% acid, by mass</b>	8	UN2789	II		P5, A3, A6, A7, A10	A12.3
	<b>ACETIC ACID SOLUTION, with more than</b> <b>10%, but not more than 80% acid, by mass</b>	8	UN2790	II		P5, A3, A6, A7, A10	A12.3
	<b>ACETIC ANHYDRIDE</b>	8	UN1715	II	3	P5, A3, A6, A7, A10	A12.3
	<i>Acetic oxide; see ACETIC ANHYDRIDE</i>						
	<i>Acetoin; see ACETYL METHYL CARBINOL</i>						
	<b>ACETONE</b>	3	UN1090	II		P5	A7.3
	<b>ACETONE CYANOHYDRIN STABILIZED</b>	6.1	UN1541	I		P2, 2, A3, N34	A10.7

# Multiple Regulations

- Each of these covers a different Transportation Mode. Be sure to use all that apply.





# HAZMAT Regulations by Mode

(Cont)

**Highway**

**49 CFR**

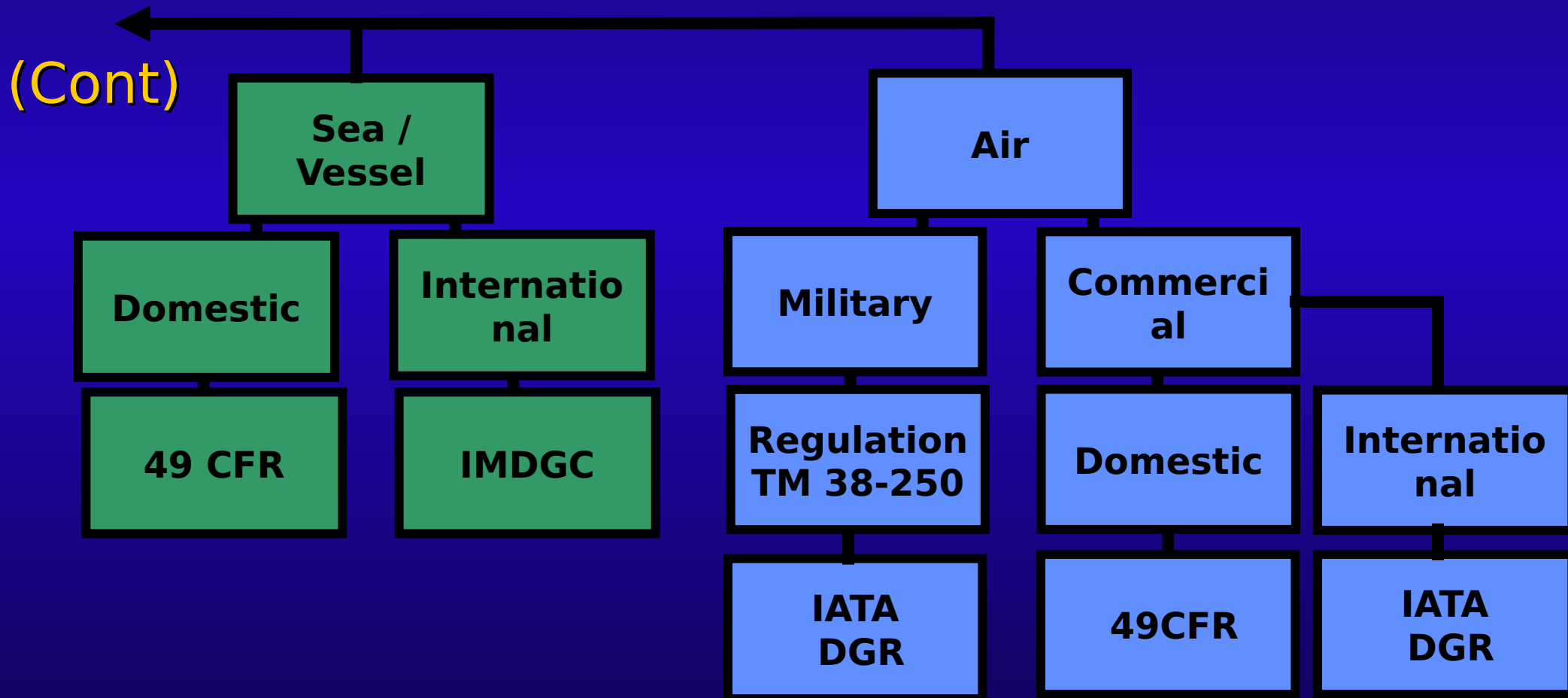
**Host  
Nation  
Regulation  
s**

**Rail**

**49 CFR**

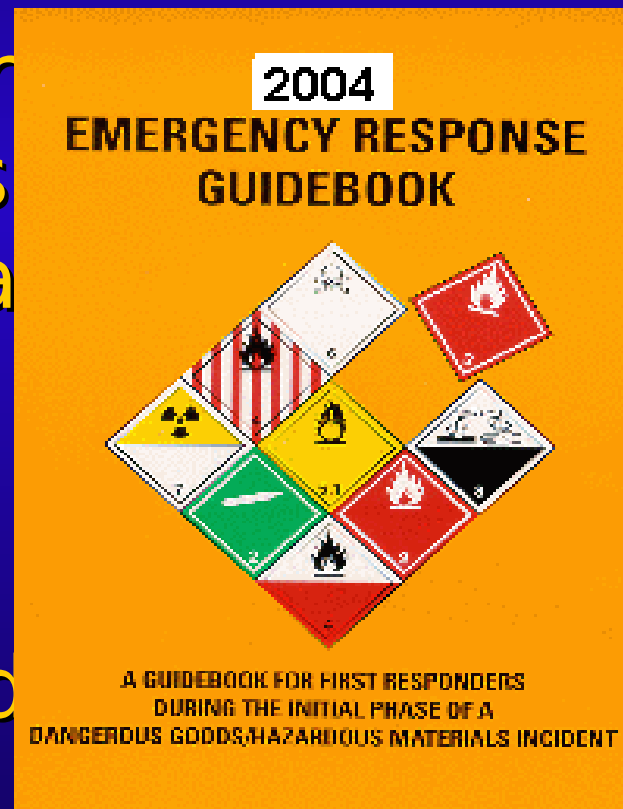
**Host  
Nation  
Regulation  
s**

# HAZMAT Regulations by Mode (Cont)



# Current Emergency Response Guidebook (ERG)

- A guidebook for first responders during the initial phase of a hazardous materials / dangerous goods incident





## ERG -- Yellow

- Yellow section: Index list of dangerous goods in numerical ID number order

ID No.	Guide No.	Name of Material
1090	127	Acetone

# ERG -- Blue

- **Blue** section: Index list of dangerous goods in alphabetical order of substance name

Name of Material	Guide No.	ID No.
Sulfuric acid	137	1830

# ERG -- Orange

- **Orange** section: Safety recommendations & emergency response information for dangerous substances identified by guide number including:
  - Potential Hazards: lists any fire, explosion & health effects of substances that must be handled immediately

# ERG -- Orange (Cont)

- **Orange** section (Cont):

**Public Safety:** tells response team the immediate isolation distances, protective clothing recommendations & suggested evacuation distances

**Emergency Response:** Provides guidance & activities for fire, spill or leak incidents & first aid procedures

## ERG -- Green

- **Green** section: Index list by numerical ID number of only those substances which are poisonous by inhalation

Includes initial isolation & protective action distances

- Remember: This publication should not be used to determine proper compliance

# SUMMARY



On  
Learnin  
g

# Unit HAZMAT Responsibilities



# Unit Responsibilities

- Purpose is to provide guidance and send “Flags” to UMO’s that certain equipment & materials may be defined as hazardous material.
- Some items that are commonly shipped by deploying units: Oxygen & Acetylene cylinders; other compressed gases; various batteries & battery acids; mogas, diesel fuel & other POL products; antifreeze; fire extinguishers; mineral spirits, paint & paint thinner.

# Unit Responsibilities (Cont)

- Appendix D, FM 4-01.011 gives direction on tasks that need to be accomplished to comply with HAZMAT regulations
  - ① Determine Proper Shipping Name
    - Determine the Hazard Class(s)
    - Determine the mode(s) of transportation
    - Make sure proper labeling is applied

# Unit Responsibilities (Cont)

- Make sure you select proper packaging
- Ensure packaging is properly marked
- Prepare packing/load lists as required
- Determine the proper placarding of vehicles
- Determine the segregation requirements
- Ensure water commodity/special handling codes are entered into AUEL
- \* (Step 11) Prepare appropriate shipping documentation

# **Hazardous Material Documentation**

# SDDG

## Shipper's Declaration of Dangerous Goods

SHIPPER'S DECLARATION FOR DANGEROUS GOODS							
<b>Shipper</b> ABC Company 1000 High Street Mississauga, Ontario Canada				<b>Air Waybill No.</b> 800 1234 5678 <b>Page</b> 1 of 1 Pages <b>Shipper's Reference Number</b> (optional)			
<b>Consignee</b> CBA Ltd 50 Rue de la Paix Paris 75 006 France				For optional use for Company logo name and address			
Two completed and signed copies of this Declaration must be handed to the operator.				<b>WARNING</b> Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.			
<b>TRANSPORT DETAILS</b> This shipment is within the limitations prescribed for: (delete non-applicable) <input checked="" type="checkbox"/> PASSENGER <input checked="" type="checkbox"/> CARGO <input type="checkbox"/> AIRCRAFT ONLY				<b>Airport of Departure</b> Mississauga			
<b>Airport of Destination</b> Paris, Charles de Gaulle				<b>Shipment type:</b> (delete non-applicable) <input checked="" type="checkbox"/> NON-RADIOACTIVE <input type="checkbox"/> RADIOACTIVE			
NATURE AND QUANTITY OF DANGEROUS GOODS							
Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk	Quantity and type of packing	Packing Inst.	Authorization
Mortite	6.1	UN1654	II		1 Steel drum 20 L	611	
Self-reactive solid type V (Benzene Sulphohydrazide)	4.1	UN3226	II		1 Fibreboard box 10 kg	430	
Perox	3	UN1263	II		2 Fibreboard boxes 4 L	305	
Perox	3	UN1263	III		1 Fibreboard box 30 L	309	
Vehicle (Flammable liquid powered)	9	UN3166			One automobile 1350 kg	900	
Chemical Lix	9	UN3316	II		1 Fibreboard box 3 kg	415	
<b>Additional Handling Information</b> The packages containing UN3226 must be shaded from direct sunlight, stored away from all sources of heat in a well ventilated area and not over-stowed with other cargo.							
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						<b>Name/Title of Signatory</b> B. Smith, Dispatch Supervisor <b>Place and Date</b> Mississauga 1 January 1999 <b>Signature</b> (see marking above) B. Smith	

# Shipper's Dangerous Goods Checklist

## SHIPPERS DANGEROUS GOODS CHECKLIST FOR NON-RADIOACTIVE BIOLOGICAL SHIPMENTS.

### SHIPPERS DECLARATION FOR DANGEROUS GOODS (DGD).

IS THE FOLLOWING INFORMATION AS PRESENTED ON  
A SHIPPERS DECLARATION OF DANGEROUS GOODS FORM  
AND/OR WAYBILL CORRECT AND COMPLETE?

#### CHECK ALL APPROPRIATE BOXES.

	YES
Two copies in English and in the IATA format.	<input type="checkbox"/>
Full name and address of Shipper	<input type="checkbox"/>
Full name and address of Consignee.	<input type="checkbox"/>

#### Quantity and Type of Packing.

	YES	N/A
Number and type of Packages.	<input type="checkbox"/>	
Quantity and unit of measure per package.	<input type="checkbox"/>	<input type="checkbox"/>
Packing instruction number .	<input type="checkbox"/>	

Pages **numbered and totaled.** ☐

Name of City Airports of departure and destination (**may be entered by courier**). ☐

**Delete** the word **Radioactive** and either **'Passenger and Cargo'** or **'Cargo Aircraft only'**. ☐

Proper shipping Name. ☐

( Class 6.2 proper shipping name is **INFECTIOUS SUBSTANCE AFFECTING HUMANS**). (technical name, Physical state and Risk group may be required).

**Class** or division. ☐

**UN** or ID **number** preceded by prefix. ☐

**Packing Group.** ☐

**Subsidiary Risk.** E.G. ☐

**Dry Ice** ☐

**Pre-arrangement statement for Infectious Substances.** ☐ ☐

**Name and Title of signatory, Place and Date indicated.** ☐

**Signature of Shipper.** ☐

**Amendment or alteration signed by Shipper.** ☐ ☐

### **On the Air Waybill.**

The Handling Information box shows:

"Dangerous goods as per attached Shippers Declaration". ☐ ☐

Cargo Aircraft Only, if applicable. ☐ ☐

Packing conforms with packing instructions and is undamaged. ☐

# **DD Form 626**

## **Motor Vehicle Inspection (Transporting Hazardous Materials)**



# DD Form 626

- Motor Vehicle Inspection (Transporting Hazardous Materials) form
- **Shipper must inspect** vehicle at origin before loading. **Receiver inspects** vehicle at destination before unloading
- Used for Inspecting government and commercial vehicles (see instructions for commercial vehicle)

# DD Form 626 (Cont)

- Read instructions before completing this form. Instructions are found on the reverse side of the form.

MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)											
<i>(Read Instructions before completing this form.)</i>											
This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.						1. GOVERNMENT BILL OF LADING/TRANSPORTATION CONTROL NUMBER					
SECTION I - DOCUMENTATION						ORIGIN			DESTINATION		
2. CARRIER/GOVERNMENT ORGANIZATION						a.			b.		
3. DATE/TIME OF INSPECTION											
4. LOCATION OF INSPECTION											
5. OPERATOR(S) NAME(S)											
6. OPERATOR(S) LICENSE NUMBER(S)											
7. MEDICAL EXAMINER'S CERTIFICATE*											
8. (X if satisfactory at origin)									9. CVSA DECAL DISPLAYED ON COMMERCIAL EQUIPMENT*		
a. MILITARY HAZMAT ENDORSEMENT						d. ENG OR EQUIVALENT COMMERCIAL:			YES NO		
b. VALID LEASE*						e. DRIVER'S VEHICLE INSPECTION REPORT*			a. TRUCK/TRACTOR		
c. ROUTE PLAN						f. COPY OF 49 CFR PART 397			b. TRAILER		
SECTION II - MECHANICAL INSPECTION											
<i>All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all incoming loaded equipment.</i>											
10. TYPE OF VEHICLE(S)						11. VEHICLE NUMBER(S)					
12. PART INSPECTED (X as applicable)						ORIGIN (1)		DESTINATION (2)		COMMENTS (3)	
						SAT UNSAT		SAT UNSAT			
a. SPARE ELECTRICAL FUSES											
b. HORN OPERATIVE											
c. STEERING SYSTEM											
d. WINDSHIELD/WIPERS											
e. MIRRORS											
f. WARNING EQUIPMENT											
g. FIRE EXTINGUISHER*											
h. ELECTRICAL WIRING											
i. LIGHTS AND REFLECTORS											
j. FUEL SYSTEM*											
k. EXHAUST SYSTEM											
l. BRAKE SYSTEM*											
m. SUSPENSION											
n. COUPLING DEVICES											
o. CARGO SPACE											
p. LANDING GEAR*											
q. TIRES, WHEELS, RIMS											
r. TAILGATE/DOORS*											
s. TARPULIN*											
t. OTHER (Specify)											
13. INSPECTION RESULTS (X one)						ACCEPTED		REJECTED			
<i>(If rejected give reason under "Remarks". Equipment will be approved if deficiencies are corrected prior to loading.)</i>											
14. SATELLITE MOTOR SURVEILLANCE SYSTEM: (X one)						ACCEPTED		REJECTED			
15. REMARKS											
16. INSPECTOR SIGNATURE (Origin)						17. INSPECTOR SIGNATURE (Destination)					
SECTION III - POST LOADING INSPECTION											
<i>This section applies to Commercial and Government/Military vehicles. All items will be checked prior to release of loaded equipment and shall be checked on all incoming loaded equipment.</i>											
18. LOADED (AW APPLICABLE SEGREGATION/COMPATIBILITY TABLE OF 49 CFR						ORIGIN (1)		DESTINATION (2)		COMMENTS (3)	
						SAT UNSAT		SAT UNSAT			
19. LOAD PROPERLY SECURED TO PREVENT MOVEMENT											
20. SEALS APPLIED TO CLOSED VEHICLE; TARPULIN APPLIED ON OPEN EQUIPMENT											
21. PROPER PLACARDS APPLIED											
22. SHIPPING PAPERS/DD FORM 836 FOR GOVERNMENT VEHICLE SHIPMENTS											
23. COPY OF DD FORM 626 FOR DRIVER											
24. SHIPPED UNDER DOT EXEMPTION 868											
25. INSPECTOR SIGNATURE (Origin)						26. DRIVER(S) SIGNATURE (Origin)					
27. INSPECTOR SIGNATURE (Destination)						28. DRIVER(S) SIGNATURE (Destination)					

# **DD Form 836**

**Dangerous Goods Shipping  
Paper / Declaration and  
Emergency Response  
Information for Hazardous  
Materials Transported by  
Government Vehicles,  
Containers or Vessels**

## DD Form 836

- Fill out a **DD Form 836** if **transporting HAZMAT on government vehicles or in any shipping container** (including commercial 20' or 40' shipping containers) that is placed on a government vehicle for transportation
- Ensure other forms (HAZMAT guides from the current Emergency Response Guidebook [ERG]) are attached as appropriate

# DD Form 836 (Cont)

- Must list all HAZMAT, providing quantities & weight
- Only a person who has completed the Hazardous Material Course can certify this document.

HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT							
1.a. NOMENCLATURE: b. MODEL NO.:		c. CONTAINER SEAL NO.: d. SERIAL NO.:		e. TCN NUMBER: f. BUMPER NO.:			
DANGEROUS GOODS SHIPPING PAPER/DECLARATION AND EMERGENCY RESPONSE INFORMATION FOR HAZARDOUS MATERIALS TRANSPORTED BY GOVERNMENT VEHICLES/CONTAINERS OR VESSEL							
2. SHIPPER/ADDRESS/TELEPHONE NO.		3. LOCATION AND DATE SHIPMENT PREPARED		4. DATE OF TRAVEL		5. PAGE 1 OF _____ PAGES	
6. CARGO (To be completed by the unit or shipper Transportation Office (T.O.))							
PROPER SHIPPING NAME (Include RQ, Technical Names, Additional Information per 49 CFR 172.203, as required.) a.		HAZARD CLASS/DIVISION b.	UN/ID NUMBER c.	PACKING GROUP d.	PACKAGES NUMBER e.	NET TOTAL QUANTITY & GROSS WT. (kg) f.	TOTAL AMMO (NEW) g.
(Port personnel complete Items 7 and 8.)							
7. PORT OF EMBARKATION (OCONUS only)			8a. SHIP NAME (OCONUS only)			b. VOYAGE NUMBER	
9. CONSIGNEE							
10. REMARKS							
11a. COPY OF EMERGENCY GUIDE NUMBER(S) ATTACHED (See back of this form.)							
b. EMERGENCY NOTIFICATION. In all cases of accident, breakdown or fire, prompt notification must be given to shipper as noted in Item 2.							
c. 24-HOUR EMERGENCY ASSISTANCE TELEPHONE NUMBERS:							
DOD NON-EXPLOSIVE HAZMAT: 1-800-851-8061 AT SEA: 804-279-3131 (COLLECT)		DOD HAZ CLASS 1 (EXPLOSIVES) ONLY: 703-697-0218/0219 (COLLECT) (WATCH OFFICER)		SAFE HAVEN: 1-800-524-0331 NATIONAL RESPONSE CENTER (NRC): 1-800-424-8802 AT SEA: 202-267-2675 (COLLECT)		DOD RADIOACTIVE MATERIALS: ARMY: (703) 697-0218 (COLLECT) USAF: (202) 767-4011 USNMC: (757) 887-4692/ 1-888/528-0148 DLA: (717) 770-5283	
12. CONTAINER PACKING CERTIFICATE OR VEHICLE PACKING DECLARATION It is hereby declared that the goods described above have been packed/loaded into the container/vehicle identified above in accordance with applicable provisions. (Must be completed and signed for all container/vehicle loads by person responsible for packing/loading.)							
CONTAINER NO.		VEHICLE NO.					
a. TYPE OR PRINT NAME		b. SIGNATURE		c. DATE (YYYY MMDD)			
13. SHIPPER'S CERTIFICATION This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, international and national governmental regulations.							
a. TYPE OR PRINT NAME OF SHIPPER CERTIFIER		c. SIGNATURE(S) OF VEHICLE OPERATOR(S)					
b. SIGNATURE OF SHIPPER CERTIFIER							
14. (X as appropriate) PREPARED IN ACCORDANCE WITH: 49 CFR _____ IMDG _____							
DD FORM 836, MAY 2000 PREVIOUS EDITION IS OBSOLETE. This form meets the requirements of SOLAS 74 Chapter VII, Regulation 5; MARPOL 73/78 Annex III, Regulation 4 and IMDG Code, General Introduction, Section 9.							
HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT							

# DD Form 836 (Cont)

- The emergency information for explosives is found on the reverse side of the form

- When carrying HAZMAT other than explosives, attach the appropriate guide from the current ERG

HAZMAT EMERGENCY RESPONSE INFO	
<b>EMERGENCY RESPONSE INFORMATION</b> Guide Numbers 112 and 114 from the U.S. Department of Transportation North American Emergency Response Guide Book (RSPA F5800.7) are reproduced hereon. These guides are applicable to hazard Class 1 materials (Explosives). Mark an X in the appropriate box:	
<input checked="checked" type="checkbox"/> <b>USE GUIDE 112 FOR EXPLOSIVES:</b> (1.1), (1.2), (1.3), (1.5) OR (1.6) Class A or B	<input type="checkbox"/> <b>USE GUIDE 114 FOR EXPLOSIVES:</b> (1.4) Class C
For all other hazardous materials or substances, annotate appropriate emergency Response Guide Book Guide Number in the block 11, a., and attach a copy of the guide number page or pages.	
<b>GUIDE 112</b> <b>POTENTIAL HAZARDS:</b> <b>FIRE OR EXPLOSION:</b> MAY EXPLODE AND THROW FRAGMENTS 1600 METERS (1 MILE) OR MORE IF FIRE REACHES CARGO. <b>HEALTH HAZARDS:</b> Fire may produce irritating, corrosive and/or toxic gases. <b>PUBLIC SAFETY:</b> <b>CALL CHEMTREC AT 1-800-424-9300.</b> - Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. Move people out of line of sight of the scene and away from windows. - Keep unauthorized personnel away and stay upwind. - Ventilate closed spaces before entering. <b>PROTECTIVE CLOTHING:</b> - Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. <b>EVACUATION:</b> <b>LARGE SPILL:</b> Consider initial evacuation for 800 meters (1/2 mile) in all directions. <b>FIRE:</b>	<b>GUIDE 114</b> <b>POTENTIAL HAZARDS:</b> <b>FIRE OR EXPLOSION:</b> MAY EXPLODE AND THROW FRAGMENTS 500 METERS (1/3 MILE) OR MORE IF FIRE REACHES CARGO. <b>HEALTH HAZARDS:</b> Fire may produce irritating, corrosive and/or toxic gases. <b>PUBLIC SAFETY:</b> <b>CALL Emergency Response Telephone Number on Shipping paper first. If Shipping Paper not available or no answer, CALL CHEMTREC AT 1-800-424-9300.</b> - Isolate leak or spill area immediately for at least 100 meters (300 feet) in all directions. Move people out of line of sight of the scene and away from windows. - Keep unauthorized personnel away and stay upwind. - Ventilate closed spaces before entering. <b>PROTECTIVE CLOTHING:</b> - Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. <b>EVACUATION:</b> <b>LARGE SPILL:</b> Consider initial evacuation for 250 meters (800 feet) in all directions. <b>FIRE:</b> - If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also, initiate evacuation including emergency responders for 500

# DD Form 836 (Cont)

- Appropriate Emergency Response Guidebook page(s) must be attached to DD Form 836

HAZMAT/HAZMAT/HAZMAT/HAZMAT/HAZMAT

ERG2000

ough skin,

and/or toxic and cause pollution.

y decompose upon heating to

**ETY**

on Shipping Paper first. If Shipping  
appropriate telephone number listed on the

st 25 to 50 meters (80 to 160 feet) in all

breathing apparatus (SCBA).  
which is specifically recommended by the manufacturer.  
fection.  
othing provides limited protection in fire situations ONLY;

on and Protective Action Distances for highlighted substances.  
es, increase, in the downwind direction, as necessary, the  
er "PUBLIC SAFETY".

k is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all  
initial evacuation for 800 meters (1/2 mile) in all directions.

HAZMAT

# DD Form 2890

## DOD MULTIMODAL DANGEROUS GOODS DECLARATION

- Used by unit to certify hazardous material moving by commercial truck, rail and sea
- Can be used instead of DD form 836 on public highways in CONUS
- Must be used by sea mode, SDDC will no longer accept the DD Form 836



# DD Form 2890 Cont

- When certifying by multiple modes units need only complete the DD Form 2890, certifying to the most stringent mode
- Individual certifying the form must be trained by a DOD approved school
- When the form is being used to certify hazardous materials moving by military vehicles in CONUS, the certifier can be either school trained or have been qualified as a Technical Specialist within The past 24 months

# DD FORM 2890C (CONTINUATION SHEET)

- The DD Form 2890C is used as a continuation form and must be attached to the DD Form 2890

DD MULTIMODAL DANGEROUS GOODS DECLARATION			
This form may be used as a dangerous goods declaration as it meets the requirements of SOLAS 74, Chapter VII, regulation 54; MARPOL 75/78, Annex III, Regulation 4.			
1. SHIPPER/CONSIGNOR/SENDER	2. TRANSPORT DOCUMENT NUMBER	3. PAGE 1 OF PAGES	4. SHIPPER'S REFERENCE (TCN)
5. FREIGHT FORWARDER'S REFERENCE	6. CONSIGNEE	7. CARRIER (To be completed by the carrier)	
24-HOUR EMERGENCY ASSISTANCE TELEPHONE NUMBERS: DOD NON-EXPLOSIVE HAZMAT: 1-800-851-8061 AT SEA COLLECT: (804) 279-3131 DOD HAZ CLASS 1 (EXPLOSIVES) ONLY: COLLECT (703) 697-0218/0219 DOD CHEMICAL BIOLOGICAL WARFARE MATERIAL: (410) 438-3044/72116455 AFTER DUTY HOURS: (410) 438-3148 Ask for TCU 53 DOD SECURE HOLDING: 1-800-524-0331 OIL/CHEMICAL SPILLS: (202) 787-4011 NRC & TERRORIST HOTLINE: 1-800-424-8902 AT SEA COLLECT: 202-267-2675 DOD RADIOACTIVE MATERIALS: COLLECT ARMY (703) 697-0218 USAF (202) 787-4011 USNMC: Use 24-hour emergency response number provided by activity			
8. THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR: (X as applicable) <input type="checkbox"/> MILITARY VESSEL <input type="checkbox"/> COMMERCIAL VESSEL <input type="checkbox"/> HIGHWAY/RAIL			
9. CONTAINER PACKING CERTIFICATE OR VEHICLE PACKING DECLARATION, DD FORM 2781, IS ATTACHED (X if applicable)			
10. VOYAGE DOCUMENT NUMBER AND SAILING DATE (To be completed by the carrier)		11. PORT/PLACE OF LOADING	
12. PORT/PLACE OF DISCHARGE		13. DESTINATION	
14. SHIPPING MARKS		DESCRIPTION OF GOODS (UN No., PSN, INC, SHC, PG, number and kind of package, and additional information as required by regulation)	
		NET MASS/GTY (kg)	
		GROSS MASS (kg)	
15. CONTAINER IDENTIFICATION NO. / VEHICLE REGISTRATION NO.		16. SEAL NUMBER(S)	17. CONTAINER/VEHICLE AND TYPE
			18. TARE MASS (kg)
19. ADDITIONAL HANDLING INFORMATION			
20. RECEIVING ORGANIZATION RECEIPT Received the above number of packages/containers/trailers in apparent good order and condition, unless stated hereon: a. RECEIVING ORGANIZATION REMARKS			
b. HAULER'S NAME		c. VEHICLE REGISTRATION NO.	d. SIGNATURE AND DATE
			e. DRIVER'S SIGNATURE
21. SHIPPER PREPARING THIS FORM SHIPPER'S DECLARATION: I hereby declare that the contents of this consignment are fully and accurately described above by the Proper Shipping Name, and are classified, packaged, marked, and labeled/placarded and are in all respects in proper condition for transport according to the international and national government regulations.			
a. NAME OF COMPANY/MILITARY UNIT		b. NAME/STATUS OF DECLARANT/CERTIFIER	
c. PLACE AND DATE		d. SIGNATURE OF DECLARANT/CERTIFIER	

DD FORM 2890, OCT 2005

PREVIOUS EDITION IS OBSOLETE.

Form Approved for Distribution 5-0

LTMODAL DANGEROUS GOODS DECLARATION (Continuation Sheet)			
2. TRANSPORT DOCUMENT NUMBER	3. PAGE OF PAGES	4. SHIPPER'S REFERENCE (TCN)	
V No., PSN, INC, SHC, PG, number and kind of package, and additional information as required by regulation		NET MASS/GTY (kg)	GROSS MASS (kg)

DD FORM  
2890C

DD FORM 2890C, OCT 2005

PREVIOUS EDITION IS OBSOLETE.

# DD FORM 2781 CONTAINER PACKING CERTIFICATE OR VEHICLE PACKING DECLARATION

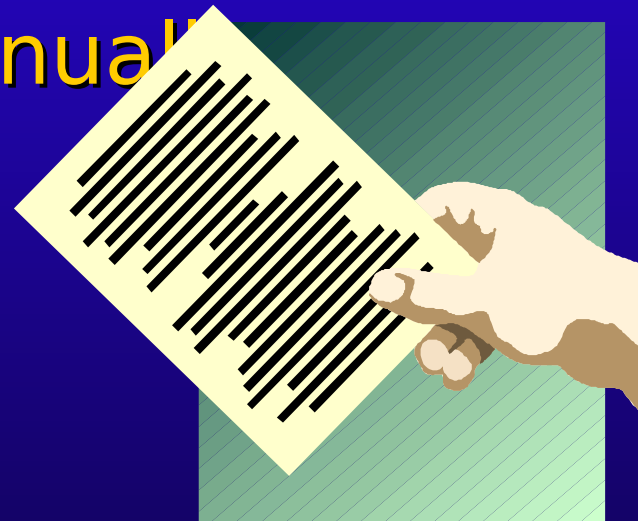
- Must be used when certifying hazmat for shipment OCONUS via sea
- Attached to the DD Form 2890 movement

CONTAINER PACKING CERTIFICATE OR VEHICLE PACKING DECLARATION			
Person responsible for packing the cargo transport unit (vehicle/container) will complete the checklist. Cross out "vehicle" or "container", as applicable. After completion, sign the certificate.			
1. It is declared that the undersigned has visually inspected (Container/Vehicle) Number: _____ (cross out whichever item does NOT apply) and it has been loaded/packed in accordance with the provisions of 5.4.2.1 (IMDGC) and CFR 49 and that (indicate "N/A" for all items that do NOT apply):			
a. The cargo transport unit (container/vehicle) was clean, dry, and apparently fit to receive the goods.			
b. If the consignment includes goods of class 1, other than 1.4, the cargo transport unit (container/vehicle) is structurally serviceable in conformity with 7.4.6 (IMDGC).			
c. Goods that should be segregated, have not been packed together onto or in the cargo transport unit (container/ vehicle) (unless approved by the competent authority concerned in accordance with 7.2.2.3 (IMDGC)).			
d. All packages have been externally inspected for damage, leakage, or sifting, and only sound packages have been packed.			
e. Drums have been stowed in an upright position, unless otherwise authorized by the competent authority.			
f. All packages have been properly packed onto or in the cargo transport unit (container/vehicle) and secured.			
g. When dangerous goods are transported in bulk packagings, the cargo has been evenly distributed.			
h. The cargo transport unit (container/vehicle) and packagings therein are properly marked, labeled, and placarded.			
i. When solid carbon dioxide (CO <sup>2</sup> - dry ice) is used for cooling purposes, the cargo transport unit (container/vehicle) is externally marked or labeled in a conspicuous place, such as the door, and with the words: "DANGEROUS CO <sup>2</sup> GAS (DRY ICE) INSIDE. VENTILATE THOROUGHLY BEFORE ENTERING".			
j. The dangerous goods transport document required in 5.4.1 (IMDGC) has been received for each dangerous goods consignment packed in the cargo transport unit (container/vehicle).			
k. If container is stowed with a vehicle and/or mechanical equipment with fuel in the tank, a warning label has been affixed to access doors legibly reading: "WARNING - MAY CONTAIN EXPLOSIVE MIXTURES WITH AIR - KEEP IGNITION SOURCES AWAY WHEN OPENING" in accordance with #176.955(a)(5), 49 CFR.			
2. PERSON RESPONSIBLE FOR PACKING			
a. PRINTED NAME (Last, First, Middle Initial)	b. RANK/GRADE	c. TITLE	d. ORGANIZATION
e. PLACE PACKED	f. SIGNATURE		g. DATE (YYYYMMDD)

DD FORM 2781, JUN 2005 PREVIOUS EDITION IS OBSOLETE

# Shipment Papers

- 49 CFR requires every shipment of HAZMAT be accompanied by shipping papers & a shipper's certification
  - Must be legible
  - Printed mechanically or manually
  - Printed in English
- The description must include:
  - Proper shipping name entered **first** or in **contrasting color**



# Shipment Papers (Cont)

- The description must include (Cont):
  - Hazardous class or division
  - Identification Number
  - Packing Group in Roman numerals

In that order

- Total quantity
- Emergency response telephone number

- Used when civilian company is moving government goods
- Note that a DD Form 626 is also required for HAZMAT shipments.

\*Show also cubic measurements for shipments via air, truck or water carrier in cases where required.

204-18

GBL

## U.S. GOVERNMENT BILL OF LADING

MEMORANDUM  
COPYB/L  
NO > M2536514

1. TRANSPORTATION COMPANY TENDERED TO OLD DOMINION FREIGHT LINE IN	2. SCAC ODEL	3. DATE B/L PREPARED 990520	4. ROUTE ORDER/RELEASE NUMBER 7YBCANR3PF
5. DESTINATION (Name, address, and ZIP code) MARINE AIR STATION TRAFFIC MANAGEMENT BLDG 149 CHERRY POINT, NC 28533-5040	6. SPLC (Dest.) 405523000	8. ORIGIN (Name, address, and ZIP code) 375 AW/LGTTF TRAFFIC MGT FLT 102 SOUTH ADAMS STREET BLDG 4001 SCOTT AFB, IL 62225-5406	
	7. SPLC (Orig.) 396618240		
9. CONSIGNEE (Name, address and ZIP code of installation) MARINE AIR STATION TRAFFIC MANAGEMENT BLDG 149 CHERRY POINT, NC 28533-5040	10. GBLOC (Cons.) 1001	11. SHIPPER (Name, address and ZIP code) 375 AW/LGTTF TRAFFIC MGT FLT 102 SOUTH ADAMS STREET BLDG 4001 SCOTT AFB, IL 62225-5406	
12. APPROPRIATION CHARGEABLE ADVICE NO. O/A:		13. BILL CHARGES TO (Dept/agency,bureau/office mailing address and ZIP code) COMMANDING GENERAL MARINE CORP MARINE CORPS LG BASE, CODE 470 ALBANY, GA 31704-5001	
14. VIA (Route shipment when advantageous to the Government)		AGENCY LOC CODE G31704	

15. MARKS AND ANNOTATIONS RDD - 1999-06-01


MARINE AIR STATION  
TRAFFIC MGMT  
CHERRY POINT

EMERGENCY PHONE # 1-800-851-8061

16. PACKAGES	17. HM	18. description if possible; otherwise use a clear nontechnical description	(Pounds only)	Services	Rate	Charges
NO	KIND					
1	PCS	CLASSIFICATION ITEM NO. FAK, RVNE \$2.50 PER LB D-999913(0) RELEASE VALUE: \$2.50 TOTAL CUBE: 0 TOTAL WEIGHT: This GBL consists of 2 page(s) and has no stop offs.				
1	SD	EMERGENCY PHONE # 1-800-851-8061 M001469130006XXX N-156240(0) CUBE: 21 LIQUID, NOI, OTHER THAN AS DESCRIBED IN ITEMS 46030 AND 46032, IN BARRELS, BOXES, CRATES OR PACKAGES 2440, 2445 OR 2516 PAINT.3/ FLAMMABLE LIQUID, UN1263, PGII, ACETONE.3/ FLAMMABLE LIQUID, UN1090, PGII, PROPANE.2.1/ FLAMMABLE GAS, UN1978.				
TOTAL						

194

OLD DOMINION FREIGHT LINE

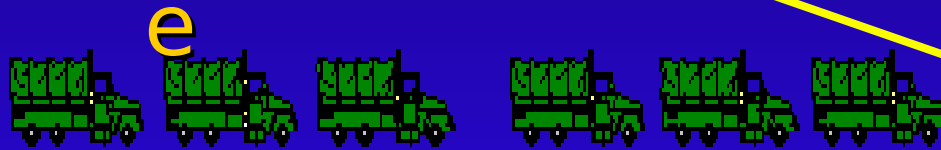


04300136603 STL

194

# Convoy to APOE

- Deploy by:  
Surface



DD  
Form  
626

or

DD  
Form  
2890

DD  
Form  
836

Regulations  
49 CFR

DOD 4500.9-R, Part II

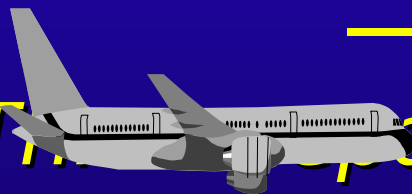


Shippers  
Declaration  
for  
Dangerous  
Goods

Regulations  
TM 38-250

IATA

Air



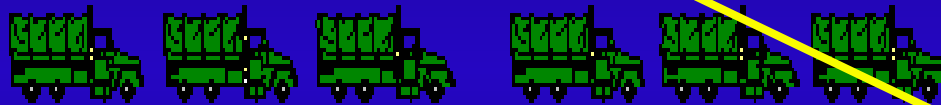
*Note: Three separate HAZMAT forms are required*

*If DD Form 2890 is used, you still need three forms*



# Convoy to SPOE

- Deploy by:  
Surface



DD  
Form  
836

DD  
Form  
2890

or

DD  
Form  
626

DD  
Form  
2890

Regulations  
49 CFR

DOD 4500.9-R, Part II

Regulation  
IMDGC

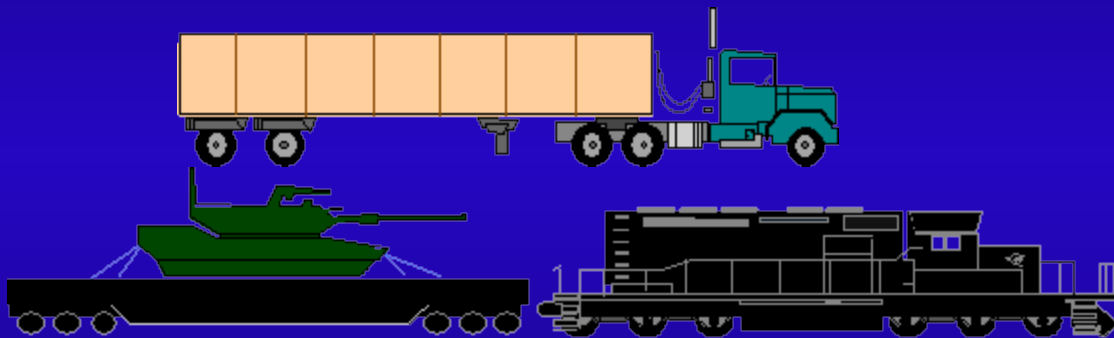
Sea



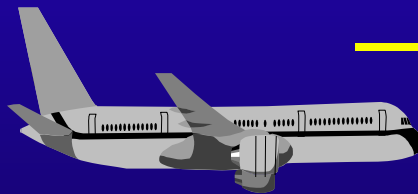
*Note: Only Two separate HAZMAT forms are required if you use the DD Form 2890 for both modes ( surface & sea )*

# Commercial Truck / Rail to APOE

- Deploy by:  
Com'l Surface →



Air



GBL

DD  
Form  
626

Regulation  
49 CFR  
FR 55-1  
DOD 4500.9-R,  
Part II



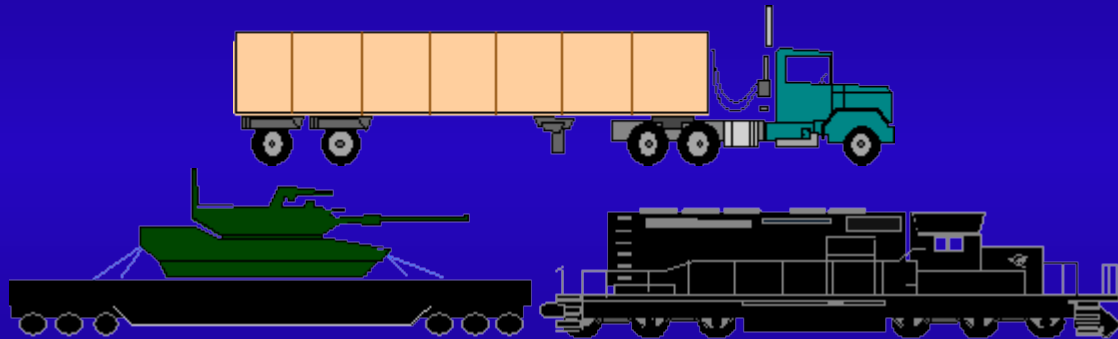
Shippers  
Declaration  
for  
Dangerous  
Goods

Regulations  
TM 38-250  
IATA

*Note: Three separate HAZMAT forms are required*

# Commercial Truck / Rail to SPOE

- Deploy by:  
Com'l Surface →



GBL

DD  
Form  
626

Regulation  
49 CFR  
FR 55-1  
DOD 4500.9-R,  
Part II



DD  
Form  
2890

Regulation  
IMDGC

Sea



*Note: Three separate HAZMAT forms are required*

# Emergency Response Information

- Emergency response information provided on shipping documents must be printed in English and include:
  - A 24-hour emergency response telephone number (with area code & international access codes) monitored at all times by a person who is knowledgeable in the material and emergency response procedures

# Shippers Certification

- **49 CFR, Para 172.204** - “..each person who offers a hazardous material... shall certify that the material is offered ..... in accordance with this subchapter by printing (manually or mechanically) on the shipping paper containing the required shipping description the certification”

# Shippers Certification (Cont)

- “This is to certify that the (‘above-named’ or ‘herein-named’) materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulation of the Department of Transportation”
- There are several ways to word the certification. consult Para 172.204 for variations, i.e., air.

# Training Requirements

- Mandatory for all involved with preparation, shipment or certification of HAZMAT for transportation
- Training documented in personnel records until 90 days following separation from DOD
- HAZMAT training is **good for 2 years**, then refresher courses are required
- Certifier and packaging personnel are appointed in writing by unit commander

# Certification Training Requirements

- Certification training must be accomplished at one of four DOD schools located at:
  - U.S. Army Defense Ammunition Center, Savannah, IL
  - School of Military Packaging Technology, Aberdeen Proving Grounds, MD
  - Navy Supply Corps School, Athens, GA
  - 345 TRS / TTTD, Lackland AFB, TX



# SUMMARY



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# Hazardous Materials Information

# Classifying HAZMAT

- Three steps to proper HAZMAT Classification:
  - ① Correctly identify & classify material into one of the nine Hazard Classes
    - Determine any subsidiary risks
    - Assign the item to one of the 3 Packing Groups, if applicable
- Note: A single material may fall into several hazard classes

# Identifying HAZMAT

- HAZMAT must be identified by its **Proper Shipping Name** as listed in the appropriate modal regulation

Trade Names (for example, “Drop Dead Fly Trap”) are **NOT** considered proper shipping names

Pesticides, solid, toxic, n.o.s. would be the Proper Shipping Name for the above product

# Identifying HAZMAT (Cont)

- HAZMAT must also be identified by the **Chemical Name** of the primary hazardous ingredient & proper ID number

Example: Dithiocarbamate pesticide,  
solid, poisonous UN2771

- Packing Group (if applicable) must also be identified

# Identifying HAZMAT (Cont)

- Packing Groups (PG): indicate degree of danger presented by the material

PG I:                      Great Danger

PG II:                    Medium Danger

PG III:                  Minor Danger

# Identifying HAZMAT (Cont)

- Packing Group classification example:

Hydrogen Peroxide:

Pure -100%: = PG I

7-10% Diluted: = PG II

50 -70% Diluted: = PG III





# Identifying HAZMAT (Cont)

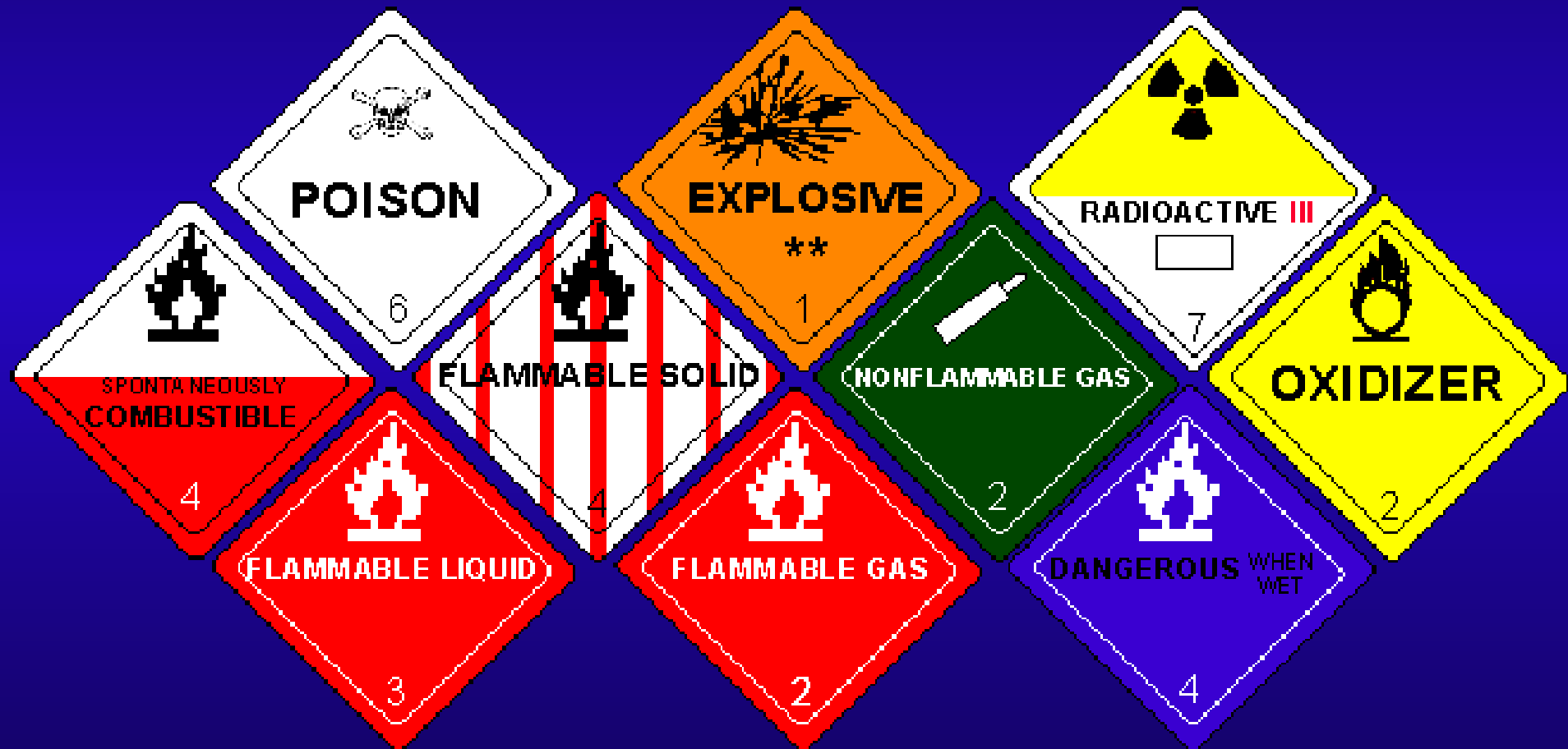
- ID numbers are not required for:  
Limited  
Quantity



Consumer Commodity  
ORM-D



# Hazardous Material Class Labels



# HAZMAT Packaging &

## Marking/Labeling

- Use UN or other authorized packaging
- Packaging materials must be compatible with the hazardous material being packaged
- Multiple substances in one package must be compatible with each other
- In addition to shipper/consignee information, HAZMAT shipments require additional marking/labeling

# HAZMAT Marking/Labeling (Cont)

- Markings must be:

Durable

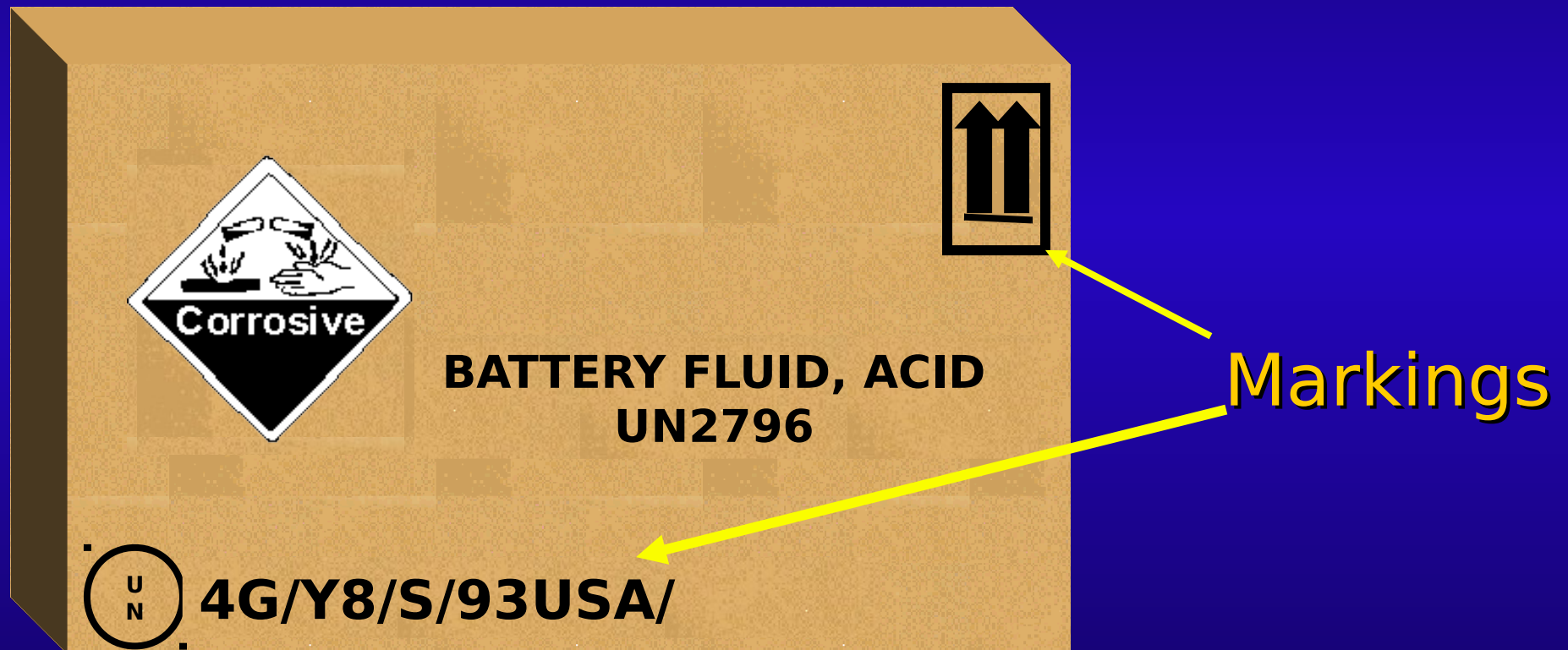
In English

Un-obscured

Sharp contrasting  
background

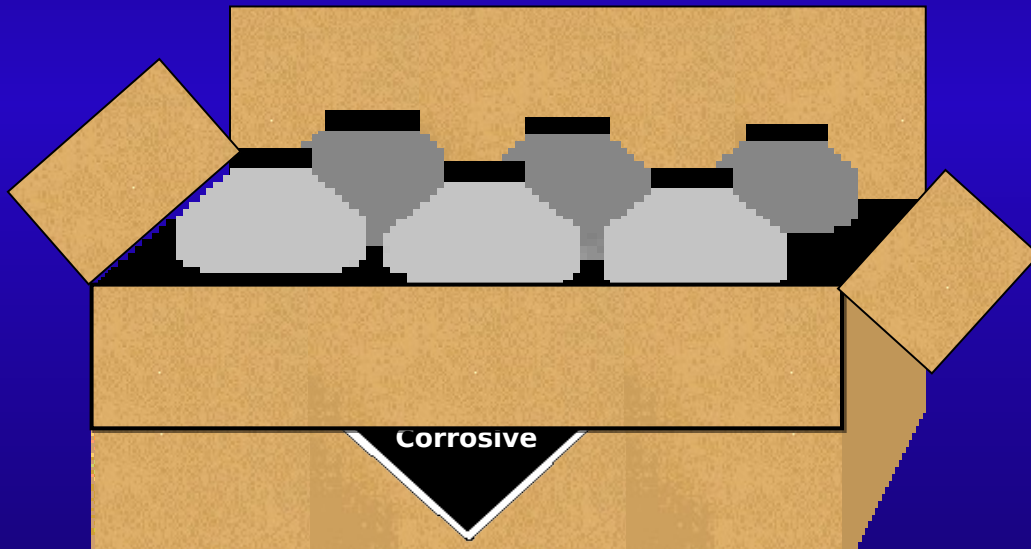
Away from other markings

# HAZMAT Marking/Labeling

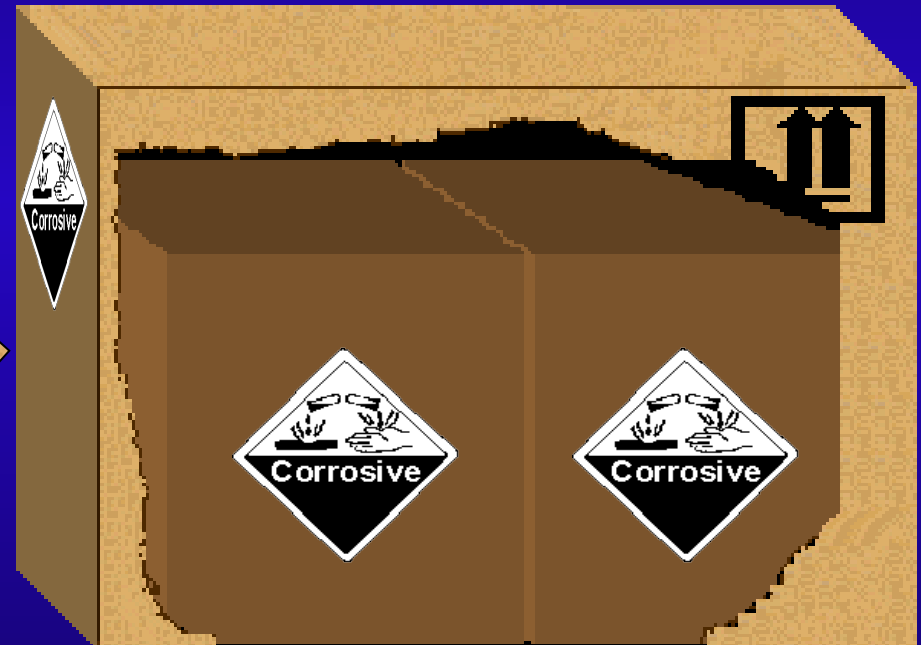


# Liquid Hazardous Material

- Closures in upright position

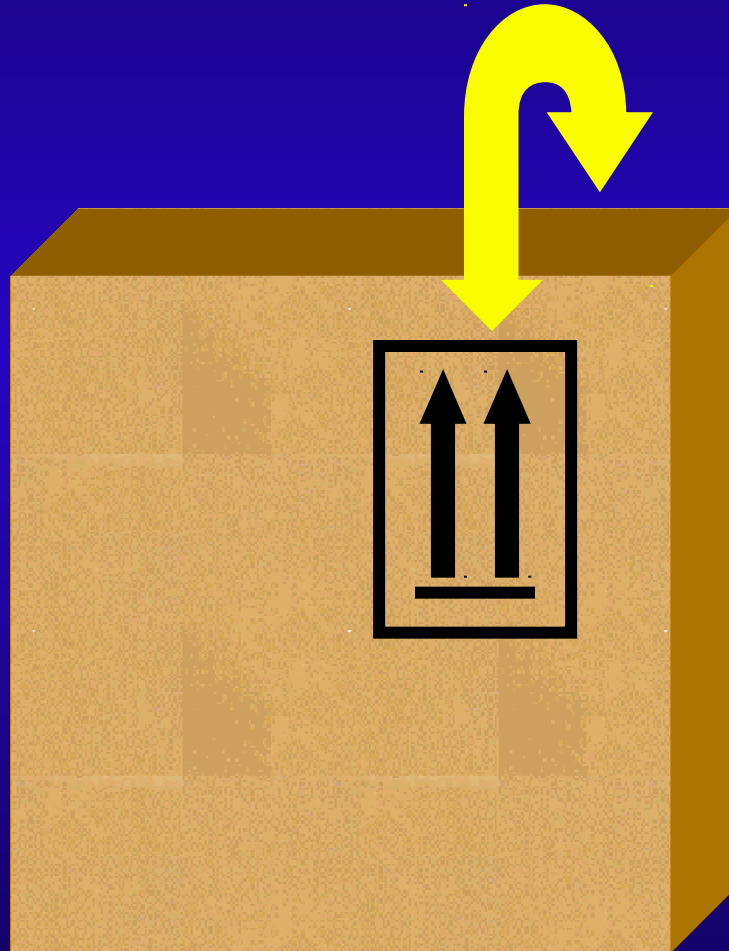


Package



Over pack

# Package Orientation Arrows

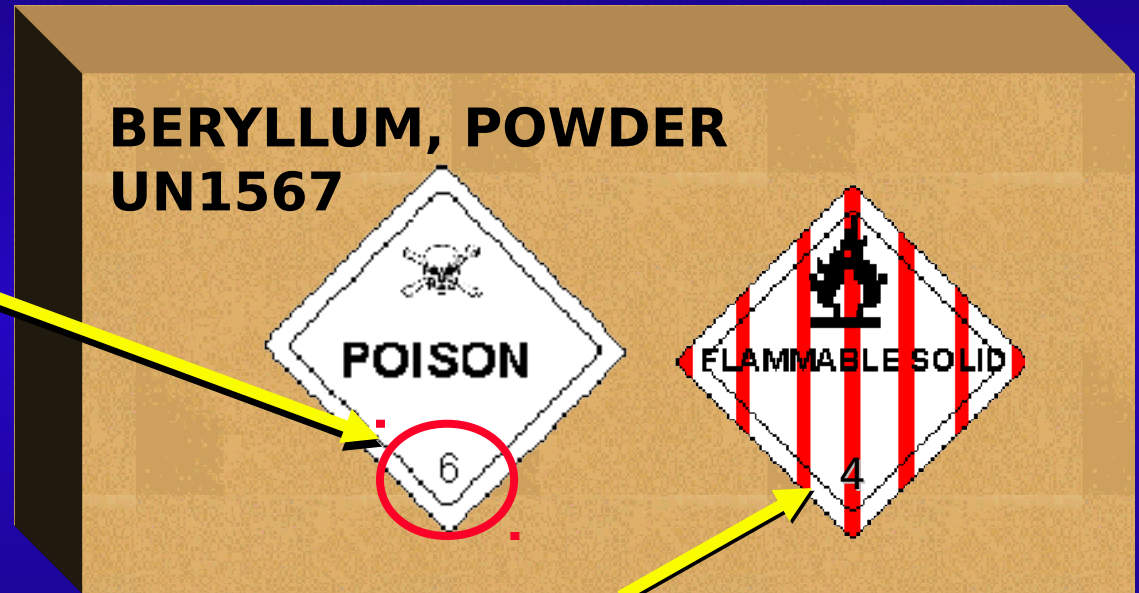


- Orientation arrows must be on two opposite vertical sides oriented in correct upright position

# Subsidiary HAZMAT Labeling

- Primary hazard class label with hazard class number

A hazardous material with multiple hazards must have the labels no more than 150mm or 6 inches apart

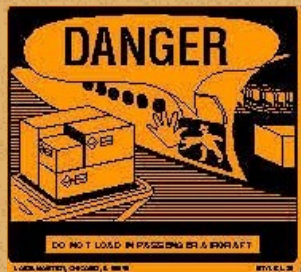


- Subsidiary hazard class label with hazard class number



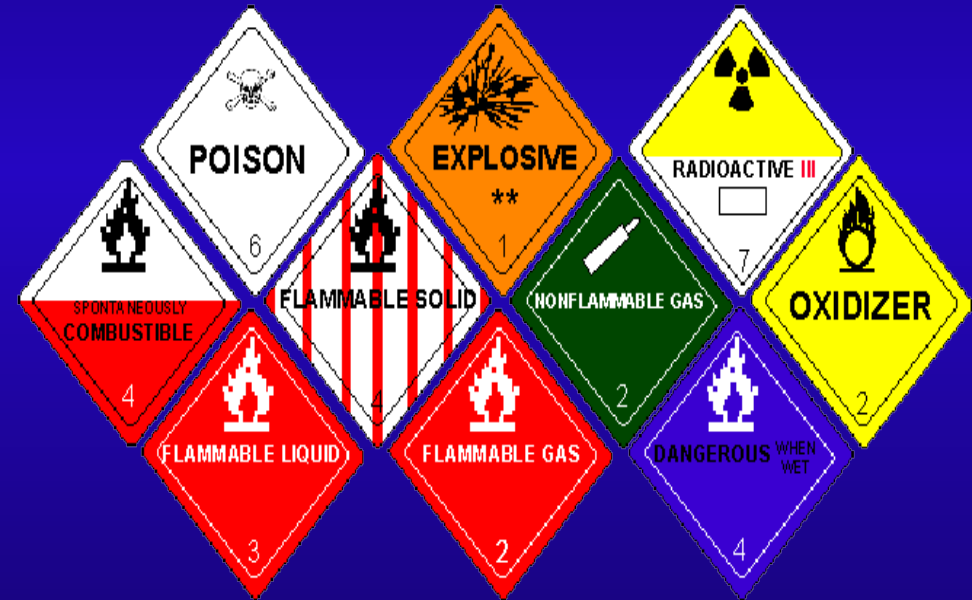
# Special Labels

- Cargo aircraft only



# Durability of Labels & Placards

- All labels and placards must be capable of withstanding, without deterioration or a substantial reduction in effectiveness, a 30-day exposure to open weather conditions.

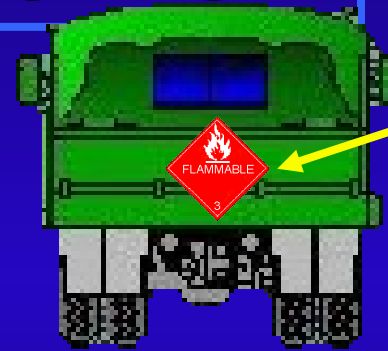


# General Placarding Requirements

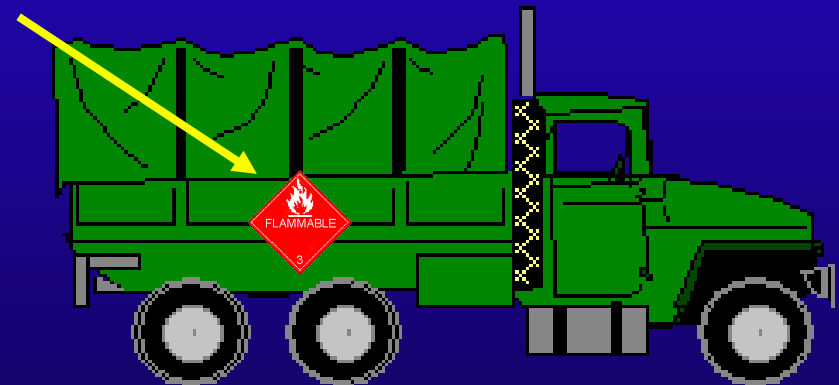
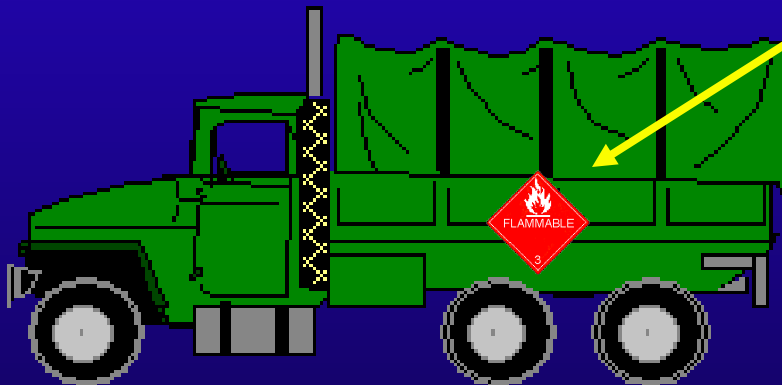
Front



Back



Both sides



Not to scale

# Hazardous Material Compatibility

- Packages containing HAZMAT which might react with one another may not be stowed next to each other
- Know the Hazard Identify



# Hazardous Material Compatibility (Cont)

- HAZMAT segregated by Hazard Classification
  - Flammable / Combustible
  - Corrosives (acids / bases)
  - Oxidizers
  - Compressed Gases
- Use DLA Inst 4145.11 as a guide



# Hazardous Material Compatibility (Cont)

- Incompatible = “unwanted reaction”
- Incompatible mixtures may produce:
  - Heat
  - Fire
  - Explosion
  - Toxic gases/vapors



# SUMMARY



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A wooden-framed chalkboard with a black surface. The text "Let's Review" is written in a large, yellow, sans-serif font. The chalkboard is set against a solid blue background. The frame is made of light brown wood with a visible grain. There are some small, dark marks on the bottom edge of the chalkboard, possibly from erasing.

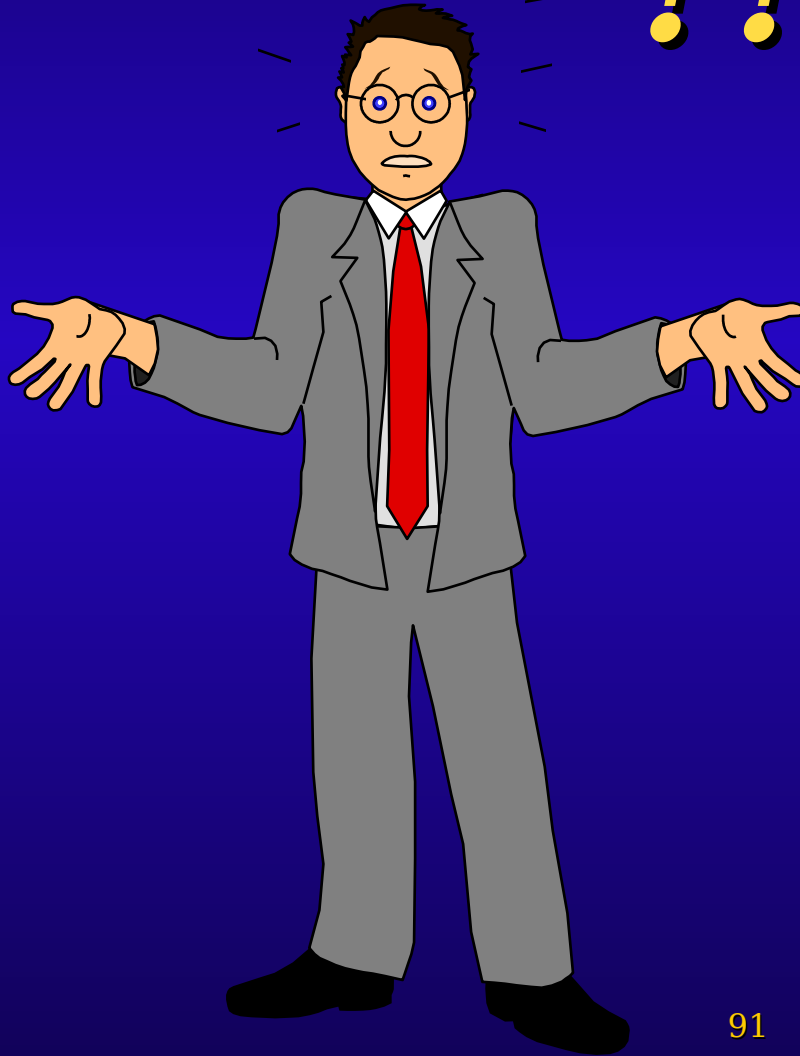
Let's  
Review



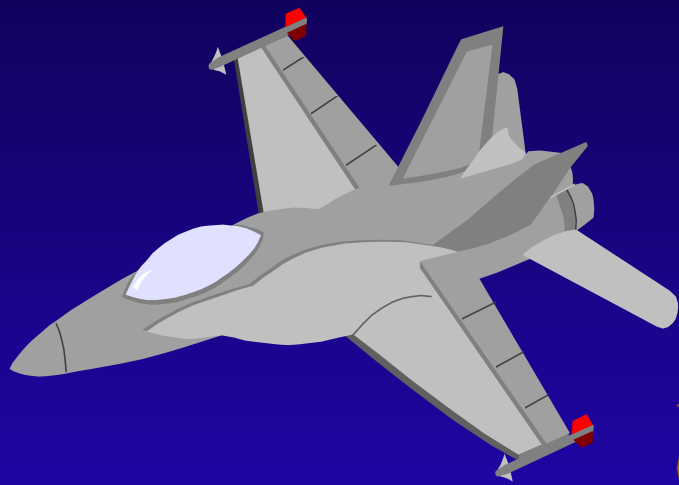
On  
Review

# ***QUESTIONS***

**???**



What's Coming



**Break**



**10 mins**